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AUTHOR Keller, Paul F. G.; Johnson, Kerry A.
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ABSTRACT

The role of library media specialists in teachers' utilization of instructional television (ITV) in Maryland schools was examined, using data from the earlier Maryland ITV study (1982), which used separate questionnaires for principals, library media specialists, and five randomly chosen teachers from each of 200 schools. The current study appended compressed data from the principal and library media specialist to 592 teachers' records, in effect, regarding the characteristics of a teacher's principal and media specialist as environmental attributes. Teachers' ITV use was largely explained by their past and present disposition towards the medium. Although data from principals accounted for far more variance than data from media specialists, when combined with information from teachers, principals' characteristics added no new information, while media specialists' attitudes and practices did covary with teacher use of ITV. Less experienced teachers used slightly more ITV, and training in ITV utilization did not affect frequency of use. It was concluded that teachers should be introduced to a few positive experiences with ITV using an approach geared to integration of ITV with daily teaching, and that the media specialist's role as change agent and consciousness-raiser should not be underestimated. Four references are listed. (LMM)

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HOW ARE ITV USERS DIFFERENT ?

by
Paul F.G. Keller
and
Kerry A. Johnson

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HOW ARE ITV USERS DIFFERENT?

Paul F.G. Keller, Ph.D.
Kerry A. Johnson, Ph.D.

The College of Library and Information Services
University of Maryland

College Park, MD 20742

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INTRODUCTION

It is ironic that Maryland, a state that was a pioneer in the use of television for instruction, never undertook a comprehensive, systematic investigation of the extent and nature of this powerful and pervasive medium's use in its schools until quite recently. That study (Johnson & Keller, 1981) included a mailed-questionnaire survey of 200 schools throughout the state chosen by means of a stratified random sampling algorithm with selection probability proportionate to school size. The school was regarded as the basic sampling unit, and within each school information was solicited from the principal, the library media specialist, and five randomly chosen teachers. Separate questionnaires were developed for each of these three groups using as a starting point the instruments developed by Dirr & Pedone (1979) for their national study as well a set of prototype instruments intended for use in a future nationwide survey. Unlike the national study, the Maryland study included a sub-population of library media specialists because the state has fairly articulated media programs integrating book and non-book materials with varying degrees of success. We were interested in knowing to what extent these professionals played a gatekeeper role in the utilization of ITV.

The Maryland study emphasized four areas of investigation:
1) Availability of programming, signal, pre-recorded materials, local production activities, and hardware.
2) Commitment to ITV use, including financing, support and advisory personnel, opportunities for in-service training, and research and evaluation projects.
3) Actual use of ITV including time used, numbers of students involved, programs and series regularly viewed, and related media.
4) Attitudes toward ITV, such as perceptions of facilitating and hindering factors, potential uses of the medium, and value judgements of instructional technologies in general.

The Maryland ITV Study achieved a relative high response rate for surveys of this type (78% of teachers, 84% of principals, and 85% of media

specialists), allowing a reasonable degree of confidence to be placed in the data. The final project report, however, provides only descriptive statistics on the separate sub-populations. A number of finer-grained investigations of the data are in order, particularly in the area of factors which influence productive use of ITV in the classroom. What are the various attributes of ITV users which differentiate them from non-users? In a recent paper, Johnson & Keller (1982), seeking points of comparison with an analysis of the data from the national survey undertaken by Korb & Pedone (1980), viewed only data from teachers to determine the characteristics of ITV users. Teachers who regulaly used ITV were those who, among other factors, had been using it regularly in years past, would use it even more under optimum conditions, find it easy to get a set, see many positive educational outcomes from its use, enjoy a high quality of reception, have easy access to the accompanying program guides. This paper describes an exploratory study delving somewhat deeper into the data by including information from principals and library media specialists.

METHOD

The data from the teacher, principal, and library media specialist files were compressed by deleting some items useful only for local decision making and management information. In addition, some discrete items were condensed into arbitrary additive indexes. The individual files were then sorted on a common key and merged so that selected data from the principal and library media specialist were appended to the data record for each teacher -- in effect regarding the characteristics of a teacher's principal and media specialist as attributes of that teacher's environment. Because there were schools in which at least one teacher responded to our survey, but the principal or media specialist did not, the new file thus created was reduced somewhat in size. In addition, all records were culled which indicated that no means for receiving ITV programming were available. The resulting file contained records for 592 teachers out of the 696 teacher questionnaires originally returned.

The amount of ITV use per week was regarded as the dependent variable in subsequent analyses. Based on simple correlation analysis and examination of scatterplots, the 10 most robust independent variables in the teacher, principal, and media specialist subsets of characteristics were retained for further examination. A series of forward-stepping multiple regression analyses was then performed on the dependent variable using first the individual subsets and then combinations of subsets based on those independent variables which appeared to yield the largest coefficients of determination and at the same time have stable regression coefficients. This cautious, probing method we believed was superior to the "kitchen sink" methods sometimes used in multiple regression analysis. Because surveys exhibit the imperfections found in the real world, there are usually missing data, and because the computational procedures do a listwise deletion of missing data, each independent variable added to the analysis serves to reduce the usable sample size with far-reaching consequences for the reliability of the statistics obtained. On an expensive whim we did run one analysis in which virtually every independent variable was a candidate for inclusion in the regression equation. Interestingly, the resulting regression was able to account for over 90% of the variance in the amount of ITV viewed per week, but the size of the sample had been reduced to 29 cases! Needless to say, the probability of

type II error had risen astronomically.

RESULTS

Because of the exploratory nature of the investigation and the fact that many of the variables are ordinal rather than interval scales, these results should be regarded with appropriate caution. We prefer to view them as pointers to areas within the data which must be subject to more rigorous investigation.

Viewing several facets of a teacher's attributes enhances our ability to predict that the amount of that teacher's weekly use of ITV. Based on our criterion for retaining only predictor variables that added at least 1% to the value of the coefficient of determination (R squared), data from teachers only accounted for 31% of the variance in the dependent variable, while data from principals alone accounted for 21%, and data from library media specialists alone accounted for 4%. Combining the best predictors in all three subsets of a teacher's attributes accounted for 35%.

Those variables are shown in their order of contribution to the proportion of variance accounted for with their associated coefficients of determination and Beta weights in Table 1.

Almost tautologically, the extent of a teacher's use of ITV is explained in large part by that teacher's disposition toward the medium, past and present. As indicated by the first and second predictor variables, ITV users are those who have been using it in the past and would use it even more if conditions were right. They also tend to see a variety of positive outcomes from integrating the technology with their teaching. Matters of availability do play some part, albeit a lesser one (variable 4). The newer capabilities to provide recorded video programs to the teacher also show a small effect as seen in variable 7. It is interesting that when viewed in isolation, data from principals accounts for far more variance than data from media specialists, but when combined with information from teachers, characteristics of the principal add no new information, while media specialists' attitudes and practices do covary with teacher use of ITV (variables 3, 6). Although experience makes a small contribution, it is in a negative direction, with less experienced teachers being slightly heavier ITV users (variable 8). Also of interest are some of the variables that did not emerge as viable predictors of ITV use. All three groups were given the opportunity to indicate whether they had had training in ITV utilization. In none of the groups did its effect manifest itself. It is often supposed that users of one instructional media format will tend to be users of others as well. Again, these data do not bear it out.

CONCLUSIONS

As we stated in the previous section, our conclusions at this juncture are highly tentative, for there are several refinements to the analysis that ought to be pursued. School type was shown to have a strong relationship to ITV use in the cross-tabulated data of the Maryland ITV Study final report, with the predictable finding that elementary schools were heavier consumers than middle and junior high schols, and these in turn used more ITV than high schools. Neither does this investigation account for users vs. non-users. Finally, the present study does not take note of the subject matter with which ITV is used. These matters of scrutiny we leave to a subsequent exploration.

In the meantime, we would observe that if it is desirable to increase the use of the kind of information that ITV can bring into the classroom, then the important step is to introduce teachers and prospective teachers to a few positive experiences with it. Such an approach should be geared to integration with the day-to-day business of teaching rather than focusing on ITV per se. Finally, the role of the media specialist as change agent and consciousness raiser should not be underestimated. It appears that in many instances the transition from books alone to an integrated media program has indeed been made, and that this professional can enhance the electronic classroom.

TABLE 1
REGRESSION RESULTS WITH BETA WEIGHTS

Variable	R squared (cumulative)	Beta weight
1 Years used ITV	.18	.24
2 Time used if optimum conditions	.26	.24
3 Appropriate amount of ITV per week (according to media specialist)	.28	.12
4 How easy to get a set	.31	-.14
5 Sum of outcomes seen from ITV use	.32	.15
6 Media spec. practices toward ITV	.33	-.02
7 How often use pre-recorded shows	.34	-.12
8 Sum of experience in teaching	.35	-.08

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